

### **REMARKS**

Claims 1-6 are now present in this application. Claims 1 and 5 are independent. By this response, claims 1 and 6 are amended. Reconsideration of this application, as amended, is respectfully requested.

#### **Examiner Interview**

Applicants' representative spoke with the Examiner in this Application on February 14, 2012. The claim amendments presented herein were discussed at that time and the Examiner indicated willingness to consider the amendments and notify Applicants' representative in advance of any action intended by the Examiner in response to the amendments. Applicants therefore now present the claim amendments as discussed and respectfully request that the Examiner contact Applicants' representative in advance of issuing any Office Action or Advisory Action.

#### **Rejections under 35 U.S.C. § 103**

Claims 1 – 3 and 5 - 6 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 5,583,837 ("Ogino") in view of U.S. Patent Publication 2002/0158689 ("Harris"). This rejection is respectfully traversed.

#### **Claim 1**

Independent claim 1 pertains to a microwave frequency converter that includes, in pertinent part, "an RF amplifier whose gain is adjustable to any value within a range from an amplified state to an attenuated state, said amplified state being a state where the RF amplifier performs amplification and said attenuated state being a state where the RF amplifier performs attenuation; and a control circuit that applies a gain control voltage to the RF amplifier; wherein the control circuit controls the gain control voltage such that the gain of the RF amplifier is in the attenuated state during a period of time including a time during which a transmission section performs oscillation and times therebefore and thereafter, and to be in the amplified state during

any period of time other than the period of time; and further wherein the RF amplifier does not perform attenuation when its gain value is associated with an amplified state.”

#### Ogino Does Not Attenuate

Ogino teaches an amplifier which always amplifies and never attenuates. The Office Action notes, in the response to arguments, that Ogino applies an attenuation factor to the loop gain such that the loop gain is reduced (Page 2 of Office Action). However this reduced loop gain is still a positive gain value. In claim 1, however, “said attenuated state [is] a state where the RF amplifier performs attenuation.” Therefore when the gain of the RF amplifier is set to “an attenuated state” that means the gain is set such that the RF amplifier “performs attenuation.” In other words, the gain of the RF amplifier in the attenuated state means a gain that causes signal attenuation instead of signal amplification.

#### Ogino’s Loop Gain Is Always Amplification Gain

With respect to the limitation that the “control circuit controls the gain control voltage such that the gain of the RF amplifier is in the attenuated state,” applicants respectfully note that Ogino merely teaches applying an attenuation factor to reduce loop gain to “attenuate the oscillation.” (Ogino at Col. 7, lines 20 – 23). In other words, the loop gain (which is still an amplification gain) is reduced to prevent excessive amplification of noise.

The loop gain control portion sets the amplification factor to in the loop gain control section “to a multiple of A ( $A = P * D$ ), where P is a preset multiplication factor.” (Ogino at Col. 7, lines 15 – 20). In other words, the attenuation factor is multiplied by a pre-set multiplication factor to produce the value A, which is then multiplied again, and that value is then set as the loop amplification gain. Through this technique, Ogino teaches that “the loop [amplification] gain is forcibly decreased to attenuate the oscillation.” (Ogino at Col. 7, lines 20 – 23). In other words, Ogino attenuates the gain, but does not actually set the gain to a value that causes signal attenuation.

Ogino’s attenuation factor is therefore merely used to decrease the amount of loop amplification in order prevent over-amplifying the oscillation. Ogino therefore does not teach or suggest that the “control circuit controls the gain control voltage such that the gain of the RF

amplifier is in the attenuated state” where “said attenuated state [is] a state where the RF amplifier performs attenuation” as required by independent claim 1. Ogino teaches forcibly reducing an amount of loop gain, but does not teach actual signal attenuation in an amplifier.

### Summary

At least in view of the above, Applicants respectfully submit that Ogino is deficient in its teachings with respect to independent claim 1. Applicants further submit that Harris is not relied upon, and may not properly be relied upon, to remedy the deficiencies of Ogino. Applicants therefore respectfully submit that the Office Action fails to establish *prima facie* obviousness of independent claim 1. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

### Claim 5

Applicants respectfully note that independent claim 5 pertains to a microwave frequency converter comprising, in pertinent part, “an RF amplifier whose gain is adjustable to any value within a range from an amplified state to an attenuated state, said amplified state being a state where the RF amplifier performs amplification and said attenuated state being a state where the RF amplifier performs attenuation; and a control circuit that applies a gain control voltage to the RF amplifier; wherein the control circuit controls the gain control voltage such that the gain of the RF amplifier is in the attenuated state during a period of time including a time during which a transmission section performs oscillation and times thereof and thereafter, and to be in the amplified state during any period of time other than the period of time; and further wherein further wherein both the amplified state and attenuated state of the amplifier gain are directly controlled by the gain control voltage.”

Applicants respectfully submit that both Ogino and Harris are deficient in their teachings because neither teaches or suggests that “both the amplified state and attenuated state of the amplifier gain are directly controlled by the gain control voltage” where “said attenuated state [is] a state where the RF amplifier performs attenuation” as required by independent claim 5 for at least the same reasons as set forth with respect to independent claim 1. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

**Claims 2 – 3 and 6**

Applicants respectfully submit that claims 2 – 3 and 6 are allowable at least by virtue of their dependency from independent claims 1 and 5. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

**Allowable Subject Matter**

Applicants thank the Examiner for noting that claim 4 would be allowable if re-written in independent form. Applicants wish to pursue patentability of all claims at this time, however.

**Conclusion**

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance.

In view of the above amendment, Applicants believe the pending application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Naphtali Y. Matlis, Registration No. 61592, at the telephone number of the undersigned below to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Director is hereby authorized in this, concurrent, and future replies to charge any fees required during the pendency of the above-identified application or credit any overpayment to Deposit Account No. 02-2448.

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Respectfully submitted,

By 

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